



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,786	06/06/2006	Harald Jacobsson	3670-66	5506
23117 7590 12/10/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
POOS, JOHN W				
ART UNIT		PAPER NUMBER		
4125				
MAIL DATE		DELIVERY MODE		
12/10/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/581,786

**Applicant(s)**

JACOBSSON ET AL.

**Examiner**

JOHN W. POOS

**Art Unit**

4125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 6/6/2006.

## DETAILED ACTION

### *Drawings*

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fiscus (US 2002/0140471).

### **In regard to Claim 1 (as taught in Figure 3 and paragraph 0005):**

Examiner is treating claim 1 under 35 U.S.C. 112, sixth paragraph because the claim limitation meets the 3-prong analysis.

A delay-locked loop circuit (5), comprising input means for a signal that is to be delayed (10), said input means comprising means for splitting said input signal into a first and a second branch (signal line split after element 10, before elements 20 and 50), where the signal in the first

branch is connected to a component for delaying the signal (20) and the signal in the second branch is used as a non-delayed reference for the delay caused by the delay component in the first branch (60), characterized in that the delay component is a passive tunable delay line (lines 1-3), with the circuit comprising tuning means for the tunable delay line (lines 1-3), said tuning means being affected by said reference signal (connection of element 60 to element 20), and with the first branch comprising output means for outputting a delayed signal with a chosen phase delay (30).

**In regard to Claim 2 (as taught in paragraph 0005):**

The circuit of claim 1, in which the delay component is continuously tunable. (Lines 1-3)

**In regard to Claim 3 (as taught in paragraph 0033):**

The circuit of claim 1, in which the delay component is a passive component. (Lines 1-6)

**In regard to Claim 5 (as taught in Figure 3):**

The circuit of claim 1, in which the second branch comprises a phase detector (50), by means of which the non-delayed signal of the second branch is compared to the delayed signal in the first branch at a point in the first branch where the delay to be caused by the delay component is known (the int-clk signal from the output element 30 is after the delay component 20, therefore the delay caused by the element 20 would be known), the output signal from the phase detector being used as a control signal (output from element 60) for the tuning means for the delay component of the first branch (connection of element 60 to element 20).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 4125

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiscus (US

2002/0140471), in view of Huang et al. (US 6,396,338).

**In regard to Claim 4:**

All of the claim limitations are discussed with respect to Claim 1 above, except for the delay component is a tunable ferroelectric delay line.

Huang (338) teaches a tunable ferroelectric delay line (Column 3: lines 21-27).

Therefore it would have been obvious to one skilled in the art at the time of the invention to use a tunable ferroelectric delay lines in order to provide a relatively inexpensive demodulator in a frequency hopped spread spectrum system (Column 2: lines 6-8).

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Juan et al. (US 7,154,978), Brass et al. (US 2003/0067334), and Donnelly et al. (US 6,125,157) all respectively teach delay locked loop circuitry.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN W. POOS whose telephone number is (571)270-5077. The examiner can normally be reached on M-F (alternating Fridays off), E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W. P./  
Examiner, Art Unit 4125

/Charles D. Garber/  
Supervisory Patent Examiner, Art Unit 4125